

CLAIMS

1. A substrate processing apparatus comprising a load lock chamber and a transfer chamber provided in order from the rear side within a case, and a processing chamber provided above the load lock chamber for processing a substrate, wherein an opening section, and an opening and closing means for opening and closing the opening section are provided in a location at the rear side of the transfer chamber where the load lock chamber is not arranged.

2. A substrate processing apparatus according to claim 1, wherein the opening section is provided for maintenance within the transfer chamber.

3. A substrate processing apparatus according to claim 2, wherein the opening section is set to a size to allow passage of a person.

4. A substrate processing apparatus according to claim 2, wherein the opening and closing means faces the exterior of the case.

5. A substrate processing apparatus comprising a standby chamber for supporting a substrate in a substrate support jig and maintaining the substrate in standby, a transfer chamber, and a carrier load means for loading a carrier storing the substrate, which are provided in order from the rear side within a case, and a processing chamber provided above the standby chamber for processing the substrate, wherein the line segment joining the center of the substrate supported in the substrate support jig, with

the center of the substrate on the carrier loaded in the carrier load means is offset to one side along the width with respect to the center line passing through the center of the case width; and an opening section, and an opening and closing means for opening and closing the opening section are provided at the front side or the rear side of the transfer chamber on the other side that is not offset.

6. A substrate processing apparatus according to claim 5, wherein a substrate transfer device for transferring the substrate is installed on one side in the transfer chamber, and a substrate aligner device for aligning the substrate is installed on the other side.

7. A substrate processing apparatus according to claim 6, wherein the rotation center in the horizontal plane of the substrate transfer device is arranged on the line segment.

8. A substrate processing apparatus according to claim 5, wherein the opening section is provided for maintenance within the transfer chamber.

9. A substrate processing apparatus according to claim 6, wherein the opening section is provided for maintenance of the substrate transfer device and the substrate aligner device.

10. A substrate processing apparatus according to claim 8, wherein the opening section is set to a size to allow passage of a person.

11. A substrate processing apparatus according to claim 10, wherein the standby chamber is a load lock chamber.

12. A substrate processing apparatus according to claim 5, wherein a cleaning unit for cleaning the atmosphere of

the transfer chamber, and a substrate aligner device for aligning the substrate, and a substrate transfer device for transferring the substrate are installed in sequence in the transfer chamber along the flow direction of the atmosphere blown out of the cleaning unit.

13. A substrate processing apparatus according to claim 12, wherein the opening section is provided for maintenance of the substrate transfer device and the substrate aligner device.

14. A substrate processing apparatus according to claim 5, wherein the standby chamber is a load lock chamber.

15. A substrate processing apparatus according to claim 1, wherein the opening section and the opening and closing means are provided so that the space of the transfer chamber gradually becomes smaller as the opening section and the opening and closing means become closer to the cleaning unit side when viewed horizontally.

16. A substrate processing apparatus according to claim 5, wherein the opening section and the opening and closing means are provided so that the space of the transfer chamber gradually becomes smaller as the opening section and the opening and closing means become closer to the cleaning unit side when viewed horizontally.

17. A substrate processing apparatus according to claim 12, wherein the opening section and the opening and closing means are provided so that the space of the transfer chamber gradually becomes smaller as the opening section and the opening and closing means become closer to the cleaning unit side when viewed horizontally.

18. A substrate processing apparatus according to claim 2, wherein the load lock chamber and the transfer chamber are provided in order from the rear side within the case, the load lock chamber is offset to one side along the width with respect to the center line passing through the center of the case width; and the opening section, and the opening and closing means for opening and closing the opening section are provided at the rear side of the transfer chamber on the side opposite to the offset side.

19. A substrate processing apparatus according to claim 18, wherein the opening section, and the opening and closing means for opening and closing the opening section are provided at the rear side of the load lock chamber.

20. A manufacturing method for a semiconductor device for processing a substrate by utilizing a substrate processing apparatus comprising a load lock chamber and a transfer chamber provided in order from the rear side within a case, a processing chamber provided above the load lock chamber for processing a substrate, a heater unit for heating the processing chamber, a gas supply pipe for supplying gas to the processing chamber, an exhaust pipe for exhausting the processing chamber, and an opening section and an opening and closing means for opening and closing the opening section provided in a location at the rear side of the transfer chamber where the load lock chamber is not arranged, wherein the manufacturing method comprises the steps of:

heating the processing chamber by the heater unit;

supplying gas from the gas supply pipe to the processing chamber;

processing the substrate; and

exhausting the processing chamber through the exhaust pipe.